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# Application of serex-analysis for identification of human colon cancer antigens

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## Abstract

Copyright © Experimental Oncology, 2015. Background: Colorectal, lung and breast tumors are the most devastating and frequent malignances in clinical oncology. SEREX-analysis of colon cancer leads to identification of more than hundred antigens which are potential tumor markers. With idea that immunoscreening with pool of allogeneic sera is more productive for antigen isolation, SEREX-analysis was applied to four cases of stages II-IV primary colon tumor and 22 new antigens were isolated. Objective: To characterize 22 primary colon cancer antigens isolated by SEREXtechnique. Materials and Methods: Allogenic screening, real-time PCR analysis. Results: After allogeneic immunoscreening, for 5 of 22 (22%) isolated antigens were confirmed colon cancer restricted serological profile solely positive for 14% of tested colon cancer sera. Through these five antigens, KY-CC-17/β-actin has cytoskeleton function; KY-CC-14/ACTR1A and KY-CC-19/TSGA2 participate in chromosome segregation; KY-CC-12/FKBP4 regulates steroid receptor function and KY-CC-15/PLRG1 is a component of spliceosome complex. For the last four antigens tested were found aberrant mRNA expression in some cases of colon tumor. Conclusion: The exploration of identified antigens may define suitable targets for immunotherapy or diagnostic of colon cancer.

## Keywords

Allogeneic immunoscreening, Colon cancer, SEREX-analysis